

## **ABSTRACT**

Disclosed is process for producing polyethylene using a slurry loop reactor. The process includes using a mathematical model to predict a plurality of process control parameters based on the desired product properties and reactor characteristics and controlling the process using the predicted process control parameters. Also disclosed is a process controller programmed with the model and a method for optimizing the configuration of a loop reactor using the model.

10

21

API-1029-US (COS-933)